

REMARKS:

The following remarks are primarily directed towards the Final Office Action dated January 30, 2003 in the parent of the present CPA.

This amendment is made in the new Revised Format. In the current amendment Claim 4 has been canceled without prejudice. Claims 1 and 6 have been amended and new claims 7-9 have been added. Thus, claims 1-3 and 6-9 are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

The present invention is intended to provide a simplified procedure for measuring the presence of dietary antioxidants in foods or biological fluids. After considerable experimentation the inventor settled on a system based on oxidation by iodine with the concomitant production of iodide ions which can be readily detected as an indication of the presence of antioxidants (that is, reducing agents). During the experiments in perfecting the invention it was found that the soluble antioxidant Vitamin C was rapidly detected by iodine oxidation. However, in experimenting with a number of foods and dietary supplements the inventor found that such materials showed interesting variations in the rate of evolution of iodide ions. Materials rich in Vitamin C or similar simple antioxidants react rapidly to produce maximum concentrations of iodide ion within a minute or so. Yet, many other substances known to be rich in tannins and similar complex antioxidants showed a much slower sustained reaction. The inventor conceived of a composite measure of antioxidants wherein fast reaction would represent the content of Vitamin C and similar compounds while slow reaction would represent the content of complex tannins and similar dietary antioxidants. The data of Table 3 and the related discussion were directed to this. Although not specifically discussed in the specification, there is a growing belief that tannins and similar compounds provide health benefits not available from Vitamin C alone. While Vitamin C measurements are readily available, measurements of the tannins and similar antioxidants are not.

The claims toward “a variety of antioxidants” and “composite measurements” and “characteristics” were all unsuccessful attempts to express the ability of the present invention to measure and hence compare the “fast simple” antioxidants to the “slow complex” antioxidants. Applicant believes that none of the cited prior art renders obvious his discovery that various antioxidant components can be measured in a single test by means of reaction rates. None of the cited art shows this type of slope differences in rate of iodine reduction. The Examiner has argued that it would be logical for one to take measurements over time to assess the stability of the reaction and to determine the endpoint. This, however, is not the same thing as using a series of time points to determine the presence of multiple antioxidant components. There is no indication that any prior art appreciated that the iodine method could differentiate between antioxidant components. Applicant has redrafted the claims in an attempt to more clearly express this feature of the present invention.

The Examiner has pointed out that detection of at least one dietary antioxidant, namely Vitamin C, by iodine oxidation is known in the prior art. What is not known in the prior art that Vitamin C reacts rapidly while complex tannin react much more slowly, thereby allowing a composite measurement that can separately assess the various components of dietary antioxidants. Claim 6, based on Table 3, compares simple antioxidants to tannins by comparing the increase in iodide over a short period of time (about one minute) over a period of time beyond one minute to at least five minutes. This method of measurement provides useful and formerly unavailable information concerning dietary antioxidants.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

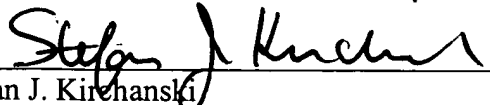
If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310) 734-5403 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-2567, referencing docket number 355864.00600.

Respectfully submitted,
REED SMITH CROSBY HEAFEY

Date: 30 May, 2003

By:


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